

✓

L3 ANSWER 26 OF 49 CA COPYRIGHT 2004 ACS on STN
AN 122:87712 CA
ED Entered STN: 18 Feb 1995
TI Applications of rheological modifiers and superplasticizers in
cementitious systems
AU Skaggs, C.B.; Rakitsky, W.G.; Whitaker, S.P.
CS Kelco Division, Merck & Co., San Diego, CA, USA
SO American Concrete Institute, SP (1994), SP-148, 189-207
CODEN: PSAIDE; ISSN: 0193-2527
PB American Concrete Institute
DT Journal
LA English
CC 58-1 (Cement, Concrete, and Related Building Materials)
AB The impact of superplasticizers and water sol.-polymers, i.e., rheol.
modifiers, on the rheol. and performance of cement-based systems has been
investigated. Combinations of water sol.-polymers and superplasticizers
can be used to formulate grouts, mortars, and concretes with properties
tailored for specific applications (e.g., post-tensioning grouts,
injection grouts, oil field cement, and underwater concrete).
Cement-based systems studied ranged from highly fluid injection grouts to
cohesive, flowable, concretes suitable for underwater construction and
repair applications. This paper demonstrates how the rheol. and
performance characteristics of cement-based systems can be manipulated
using superplasticizers (sulfonated melamine-formaldehyde condensate and
sulfonated naphthalene-formaldehyde
condensate) and rheol. modifiers. The performance properties of a rheol.
modifier of high mol. wt. polysaccharide produced by fermn. (welan
gum) are compared and contrasted with those of cellulose
derivs. (hydroxyethyl cellulose and hydroxypropyl
methylcellulose). Combinations of water-sol. polymers and
superplasticizers can be formulated to produce a continuum of properties
ranging from highly fluid, non-segg. grouts to low-slump concretes with
enhanced workability and water retention. Choice of the proper
combination of superplasticizer and water-sol. polymer is detd. by the
functional demands of each application.
ST rheol modifier polymer cement grout mortar; superplasticizer cement grout
mortar rheol
IT Cement